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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,335	04/14/2005	Akio Takeuchi	42844-0600	7918

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EXAMINER	
CUEVAS, PEDRO J	
ART UNIT	**PAPER NUMBER**
2834	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,335	TAKEUCHI, AKIO	
	Examiner	Art Unit	
	Pedro J. Cuevas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/14/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,905,312 A to Liou in view of U.S. Patent No. 6,734,574 B2 to Shin.

Liou disclose the construction of a gravity generating system utilizing falling water flow, comprising:

a substantially vertically standing frame (10) having an introduction port (7013, 7014) at its top end for introducing falling water flow and a discharge port (7031) at its lower end for discharging the falling water flow so as to pass the falling water flow through the frame;

a conveyer (40) circulatably provided inside the frame in the vertical direction via a rotary shaft (Figure 2) in a loop-like tensed state;

a plurality of buckets (50) disposed in the longitudinal direction along an outer surface of a circulating portion of the conveyor and fixed thereto at predetermined intervals (Figure 1), into which the falling water flow is introduced and the openings of which face in the direction opposite to the circulating direction of the conveyor; and

a generator (60) connected to the rotary shaft which supports the conveyor and rotates with the circulation of the circulating portion of the conveyor, characterized in

that the buckets, the openings of which face in the upward direction, lined up on the outer surface of one side of the circulating portion of the conveyor are arranged along a passage through which the falling water flow introduced from the introduction port into the inside of the frame passes.

However, it fails to disclose a cylindrical frame.

Shin disclose the construction of a buoyancy-driven electric power generator, comprising a substantially vertically standing cylindrical frame (Figures 6A and 6B), for the purpose of passing a plurality of cylindrical capsules through any plurality of cylindrical coil modules.

It would have been obvious to one skilled in the art at the time the invention was made to use the cylindrical shaped of the capsules, coils and frame disclosed by Shin on the gravity generating system disclosed by Liou for the purpose of allowing cylindricaly shaped buckets to pass through a cylindricaly shaped frame.

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to use cylindrical buckets since the examiner takes Official Notice of the equivalence of a rectangular bucket and a cylindrical bucket for their use in the electro-mechanical power generating art, and the selection of any of these known equivalents to receive a fluid and extract electro-mechanical power, would be within the level of ordinary skill in the art.

3. With regards to claim 2, Liou disclose a funnel (20) for introducing the falling water flow into the inside of the frame through the introduction port is provided on the introduction port at the upper end of the cylindrical frame.

4. With regards to claims 3 and 6, Liou disclose a storage tank (70) for temporarily storing the falling water flow to be introduced into the inside of the cylindrical frame through the introduction port is provided.

5. With regards to claims 5 and 9-10, Liou disclose the conveyer being formed by a combination of a chain and sprockets (Figure 6).

6. Claims 4, 7-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,905,312 A to Liou in view of U.S. Patent No. 6,734,574 B2 to Shin as applied to claims 1-3, 5-6 and 9-10 above, and further in view of U.S. Patent No. 1,483,505 to J. R. Bradshaw.

Liou in view of Shin disclose the construction of a gravity generating system as disclosed above.

However, it fails to disclose guide plates for introducing the falling water flow into the buckets, said guide plates being provided on outer edges of the openings of the respective buckets lined up on the outer surface of the circulating portion of the conveyor in the longitudinal direction in such a manner that the guide plates stand up diagonally outward opposite to the trunk side of the buckets.

J. R. Bradshaw disclose the construction of a water power device, comprising a plurality of buckets or containers (26) adapted to be associated with the endless web, said buckets having guide plates (extended end walls 28) for introducing the falling water flow into the buckets, said guide plates being provided on outer edges of the openings of the respective buckets lined up on the outer surface of the circulating portion of the conveyor in the longitudinal direction in such a

manner that the guide plates stand up diagonally outward opposite to the trunk side of the buckets (Figures 1 and 3) for the purpose of providing the receptacle with a bill or abutment.

It would have been obvious to one skilled in the art at the time the invention was made to use the buckets or containers disclosed by J. R. Bradshaw on the gravity generating system disclosed by Liou in view of Shin for the purpose of providing the receptacle with a bill or abutment.

7. With regards to claim 11, Liou disclose the conveyer being formed by a combination of a chain and sprockets (Figure 6).

8. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,483,505 to J. R. Bradshaw in view of U.S. Patent No. 5,905,312 A to Liou.

J. R. Bradshaw disclose the construction of a water power device, comprising:

a frame unit (8 + 16);

a first shaft (18') rotably mounted on the frame unit;

a second shaft (22) rotably mounted on the frame unit;

an elongated endless conveyor member (16') operatively supported on the first and second shafts, the conveyor member having a plurality of spaced bucket projections extending outward from an exterior surface of the conveyor member for receiving and temporarily retaining water.

However, it fails to disclose a generator operatively mounted to the shaft for generating electricity as the shaft rotates and a funnel member capable of receiving and directing water, the funnel member directs the water above and to one side of the conveyor member that juxtapositions the bucket members to receive and temporarily retain water so that release of the

water to fall by gravity will impact the respective spaced bucket projections to drive the conveyor member to rotate.

Liou disclose the construction of gravity generating system utilizing falling water flow, comprising:

a generator (60) operatively mounted to a shaft (Figure 2) for generating electricity as the shaft rotates; and

a funnel member (20) capable of receiving and directing water, the funnel member directs the water above and to one side of the conveyor member that juxtapositions the bucket members to receive and temporarily retain water so that release of the water to fall by gravity will impact the respective spaced bucket projections to drive the conveyor member to rotate;

for the purpose of converting kinetic energy into electrical energy and directing the working fluid into the buckets.

It would have been obvious to one skilled in the art at the time the invention was made to use the generator and funnel member disclosed Liou by on the water power device disclosed by J. R. Bradshaw for the purpose of converting kinetic energy into electrical energy and directing the working fluid into the buckets.

9. With regards to claim 13, J. R. Bradshaw disclose an inclined guide plate (28) on an outer edge of each bucket projection extending parallel to the exterior surface of the conveyor member.

10. With regards to claim 14, J. R. Bradshaw disclose the conveyor member including a chain that engages complementarily sprockets (17 and 18) on the respective first and second shafts.

11. With regards to claim 15, Liou disclose a storage tank (70) for holding water connected to the funnel member.

12. With regards to claim 16, Liou disclose a speed increaser unit (Figure 2), which is connected between the first shaft and the generator to increase the rotary speed applied to the generator.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,483,505 to J. R. Bradshaw in view of U.S. Patent No. 5,905,312 A to Liou as applied to claims 12-16 above, and further in view of U.S. Patent No. 4,100,743 to Trumbull et al.

J. R. Bradshaw in view of Liou disclose the construction of a water power device as disclosed above.

However, it fails to disclose a storage battery connected to the generator.

Trumbull et al. disclose the construction of a gravity engine, comprising a storage battery (41) connected to a generator, for the purpose of storing electrical energy.

It would have been obvious to one skilled in the art at the time the invention was made to use the storage battery disclosed by Trumbull et al. on the water power device disclosed by J. R. Bradshaw in view of Liou for the purpose of storing electrical energy.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,483,505 to J. R. Bradshaw in view of U.S. Patent No. 5,905,312 A to Liou further in view of

U.S. Patent No. 4,100,743 to Trumbull et al. as applied to claim 17 above, and further in view of U.S. Patent No. 6,734,574 B2 to Shin.

J. R. Bradshaw in view of Liou further in view of Trumbull et al. disclose the construction of a water power device as disclosed above.

However, it fails to disclose a cylindrical frame.

Shin disclose the construction of a buoyancy-driven electric power generator, comprising a substantially vertically standing cylindrical frame (Figures 6A and 6B), for the purpose of passing a plurality of cylindrical capsules through any plurality of cylindrical coil modules.

It would have been obvious to one skilled in the art at the time the invention was made to use the cylindrical frame disclosed by Shin on the gravity generating system disclosed by J. R. Bradshaw in view of Liou further in view of Trumbull et al. for the purpose of allowing cylindricaly shaped buckets to pass through a cylindricaly shaped frame.

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to use cylindrical buckets since the examiner takes Official Notice of the equivalence of a rectangular bucket and a cylindrical bucket for their use in the electro-mechanical power generating art, and the selection of any of these known equivalents to receive a fluid and extract electro-mechanical power, would be within the level of ordinary skill in the art.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pedro J. Cuevas
August 11, 2007

DARREN SCHUBERG
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